EXHIBIT A

C U R R I C U L U M V I T A E

C. ANDRE T. SALAMA

October 2007

Contents

• SHORT FORM

C. ANDRE T. SALAMA received the B.A.Sc. (Hons.) M.A.Sc. and Ph. D. degrees, all in Electrical Engineering, from the University of British Columbia in 1961, 1962 and 1966 respectively.

From 1962 to 1963 he served as a Research Assistant at the University of California, Berkeley. From 1966 to 1967 he was employed at Bell Northern Research, Ottawa, as a Member of Scientific Staff working in the area of integrated circuit design. Since 1967 he has been on the staff of the Department of Electrical and Computer Engineering, University of Toronto where he holds the J.M. Ham Chair in Microelectronics. In 1992, he was appointed University Professor (presently Emeritus) for scholarly achievements and preeminence in the field of microelectronics. In 1989-90, he was awarded the ITAC/NSERC Research Fellowship in information technology. In 1994, he was awarded the Canada Council I.W. Killam Memorial Prize in Engineering for outstanding career contributions to the field of microelectronics. In 2000, he received the IEEE Millenium Medal. In 2003, he received the Outstanding Lifetime Achievement Award from the Canadian Semiconductor Technology Conference for seminal and outstanding contributions to semiconductor device research and promotion of Canadian University research in microelectronics. He received the NSERC Lifetime Achievement Award of Research Excellence for outstanding and sustained contributions to the field of microelectronics (2004), the Networks of Centres of Excellence (NCE) Recognition Award for research excellence and outstanding leadership (2004) and the ITAC Outstanding Service Award for contributions to Microelectronics in Canada (2006).

He was associate editor of the IEEE Transactions on Circuits and Systems in 1986-88 and a member of the International Electron Devices Meeting (IEDM) Technical Program Committee in 1980-82, 1987-89 and 1996-98. He was the chair of the Solid State Devices Subcommittee for IEDM in 1998 and was a member of the editorial board of Solid State Electronics from 1984 to 2002. He is presently a member of the editorial board of the Analog IC and Signal Processing Journal and the Technical Program Committee of the International Symposium on Power Semiconductor Devices and ICs (ISPSD) and the Technical Program Committee of the International Symposium on Low Power Electronics and Design (ISLPED). He chaired the technical program committee of ISPSD in 1996 and was the general chair for the conference in 1999.

Dr. Salama is the Scientific Director of Micronet, a network of centres of excellence focussing on microelectronics research and funded by the Canadian Government and Industry.

He has published extensively in technical journals, is the holder of eleven patents and has served as a consultant to the semiconductor industry in Canada and the U.S. His research interests include the design and fabrication of semiconductor devices and integrated circuits with emphasis on deep submicron devices as well as circuits and systems for high speed, low power signal processing applications.

Dr. Salama is a Fellow of the Institute of Electrical and Electronics Engineers, a Fellow of the Royal Society of Canada, a Fellow of the Canadian Academy of Engineering, a Fellow of the Engineering Institute of Canada, a member of the Association of Professional Engineers of Ontario and the Electrochemical Society.

• GENERAL DATA

DATE OF BIRTH: September 27, 1938

CITIZENSHIP: Canadian

LANGUAGES: French

UNIVERSITY EDUCATION:

University of British Columbia (E.E.) 1964-1966
University of California, Berkeley (E.E.) 1963-1964
University of British Columbia (E.E.) 1957-1962

DEGREES:

Ph.D. (E.E.) 1966, University of B.C.
M.A.Sc. (E.E.) 1962, University of B.C.
B.A.Sc. (E.E.) (Honours) 1961, University of B.C.

THESES:

Ph.D.:	Silicon on Sapphire (SOS) Thin Film Transistors Supervisor: Prof. L. Young
M.A.Sc.:	Static and Dynamic Characteristics of Series Connected Tunnel Diodes and their Applications in Digital Circuits Supervisor: Prof. M.P. Beddoes.

PROFESSIONAL ENGINEERING REGISTRATION: Ontario (1970 to present)

SCIENTIFIC AND PROFESSIONAL SOCIETIES:

- **Fellow* - Engineering Institute of Canada (2007 to present)**
- **Fellow* - Canadian Academy of Engineering (2005 to present)**
- **Fellow** - Royal Society of Canada (2001 to present)**
- **Fellow*** - Institute of Electrical and Electronics Engineers (IEEE) (1987 to present)**
- Member - Innovation Management Association of Canada (IMAC) (1991 to present)
- Member - Electrochemical Society (1967 to present)
- Chair - IEEE Toronto Section (1985 to 1987)
- Vice Chair - IEEE Toronto Section (1983 to 1985)
- Secretary - IEEE Toronto Section (1981 to 1983)
- Treasurer - IEEE Toronto Section (1979 to 1981)

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* **In recognition of notable and outstanding contributions to the field of microelectronics.**
** **For innovation, creativity and leadership in semiconductor device research and integrated circuit design.**
*** **For contributions to the development of power semiconductor devices and the design of integrated circuits.**

AWARDS:

- **ITAC Outstanding Service Award, 2006**[•]
- **NSERC Lifetime Achievement Award of Research Excellence, 2004**[+]
- **Networks of Centres of Excellence (NCE) Recognition Award, 2004**[++]
- **IEEE Toronto Section Centennial Medal, 2003**[+++]
- **Outstanding Lifetime Achievement Award, Canadian Semiconductor Technology Conference, 2003**[++++]
- **IEEE Millenium Medal, 2000**[*]
- **Canada Council I.W. Killam Memorial Prize in Engineering, 1994**[**]
- **ITAC/NSERC Research Fellowship in Information Technology, 1989-1990.**[***]
- National Research Council Scholarship, 1965-1966
- National Research Council Scholarship, 1964-1965
- National Research Council Scholarship, 1962
- Northern Electric Graduate Research Fellowship, 1961-1962
- B.C. Electric Scholarship in E.E., 1960-1961
- B.C. Electric Proficiency Scholarship, 1958-1959

LISTED:

- Who's Who in Canada (1994 to present)
- Who's Who in Ontario (1994 to present)
- Who's Who in America (1991 to present)
- Men of Achievement (1990 to present)
- International Leaders in Achievement (1990 to present)
- Dictionary of International Biography (1990 to present)
- Men and Women of Distinction (1990 to present)
- Who's Who in Engineering (1980 to present)
- American Men of Science (1973 to present)
- Who's Who in the East (1973 to present)

PRESENT POSITION:

- **University Professor**[****] **(Emeritus)**
  Dept. of Electrical and Computer Engineering, University of Toronto, Toronto, Ontario, Canada, M5S 3G4

REFERENCES:

- Dr. A.R. Boothroyd, Professor, Dept. of Electronics, Carleton University, Ottawa, Ontario, Canada K1S 5B6.
- Dr. D. Hodges, Department of Electrical Engineering and Computer Sciences, University of California, Berkeley, California, 94720, U.S.A.
- Dr. L. Young, Professor, Department of Electrical Engineering, University of British Columbia, Vancouver, B.C. Canada V6T 1W5
- Dr. L.T. Bruton, Professor, Department of Electrical Engineering, University of Calgary, Calgary, Alberta, Canada T2N 1N4.
- Dr. H. Pépin, Professor, INRS Energie et Materiaux, C.P. 1020, Varennes, Quebec, Canada J3X 1S2.
- Dr. M. Kuhn, President, Econ Tech. Consulting and Management Services, Research Triangle World Trade Centre, 2525 Meridian Pkwy., Suite 50, P.O. Box 13487, Research Triangle Park, N. Carolina 27709, USA.

[•] **For outstanding contributions to Microelectronics in Canada.**

[+] **For outstanding and sustained contributions to the field of microelectronics.**

[++] **For research excellence and outstanding leadership.**

[+++] **In recognition of outstanding professional contributions.**

[++++] **For seminal and outstanding contributions to semiconductor device research and promotion of Canadian University research in microelectronics.**

[*] **For contribution to Electrical Engineering research.**

[**] **In recognition of outstanding achievement and exceptional contribution to the advancement of research in Electrical Engineering.**

[***] **For contribution to the field of information technology, specifically microelectronics.**

[****] **Only one percent of active tenured faculty at the University of Toronto are granted this significant honour (about 30 throughout the University).**

- Dr. Gabor C. Temes, Professor, Dept. of Electrical and Computer Engineering, Elec. & Comp. Eng. Bldg., Room 202, Oregon State University, Corvallis, Oregon 97331-3211, USA

• ACADEMIC EXPERIENCE

1. University of Toronto, Department of Electrical Engineering

   Positions:
   - "University Professor" (July 1992 - present)
   - J.M. Ham Chair in Microelectronics (July 1987-October 1997)
   - Professor (July 1977-June 1992)
   - Associate Professor (July 1970-June 1977)
   - Assistant Professor (September 1967-July 1970)

   Courses Taught:

   Undergraduate:
   - Electronic Circuits
   - Integrated Circuits
   - Physical Electronics

   Graduate:
   - VLSI Technology
   - Semiconductor Devices
   - Bipolar Integrated Circuit Design
   - MOS/LSI Design and Applications
   - VLSI Systems
   - VLSI Design Methodology

2. Catholic University of Leuven, Belgium
   Position: Visiting Professor, July 1975-July 1976

3. University of British Columbia
   Position: Teaching Assistant, September 1964-June 1966

4. University of California, Berkeley
   Position: Teaching Assistant, January 1963-June 1964.

• RESEARCH AND CONSULTING EXPERIENCE

Dr. Salama has been involved in research in the areas of semiconductor devices and integrated circuits and has acted as a consultant to the semiconductor industry in Canada and the USA.

• RESEARCH GRANTS/CONTRACTS

During his career at the University of Toronto, Dr. Salama has been the recipient of over $60M in research grants and contracts from federal, provincial and industry sources.

• PUBLICATIONS AND PATENTS

I.	Refereed Publications Appearing in Scientific Journals	186
II.	Conference Papers (in refereed conference proceedings)	155
III.	Patents	17
IV.	Papers Appearing in Books	7

I. REFEREED PUBLICATIONS APPEARING IN SCIENTIFIC JOURNALS:

I.(A) FULL JOURNAL PAPERS

- I.Y. Park and C.A.T. Salama, “Super Junction LDMOS Transistors”, IEEE Circuits and Devices, vol. 22, pp. 10-15, December 2006.
- F. Mahmoudi and C.A.T. Salama, “8GHz 1V, CMOS Quadrature Downconverter for Wireless Applications”, J. on Analog Integrated Circuits and Signal Processing, vol. 48, pp. 185-197, 2006.
- R. Aroca and C.A.T. Salama, “Wide Dynamic Range Parallel Feedback Transimpedance Amplifier for 10 Gb/s Optical Links”, J. on Analog Integrated Circuits and Signal Processing, vol. 48, pp. 167-174, 2006.
- I.Y. Park and C.A.T. Salama, “New Super Junction LDMOST with N-Buffer Layer”, IEEE Trans. on Electron Devices, vol. 53, pp. 1909-1913, 2006.
- S. Hamedi Hagh and C.A.T. Salama, “CMOS Wireless Phase-Shifted Transmitter”, IEEE J. of Solid State Circuits, vol. 39, pp. 1241-1252, 2004.
- S. Nassif-Khalil, L.Z. Hou and C.A.T. Salama, “Super Junction/RESURF LDMOST (SJR-LDMOST)”, IEEE Trans. On Electron Devices, vol. 51, pp. 1185-1191, 2004.
- S. Nassif-Khalil and C.A.T. Salama, “Super-Junction LDMOST on a Silicon-on-Sapphire Substrate”, IEEE Trans. On Electron Devices, vol. 50, pp. 1385-1391, 2003.
- D. Suvakovic and C.A.T. Salama, "Energy Efficient Adiabatic Multiplier-Accumulator Design", Journal of VLSI Signal Processing, vol. 33, pp. 83-103, 2003.
- *N. Fujishima, A. Sugi, S. Kajiwara, K. Matsubara, Y. Nagayasu and C.A.T. Salama, "A High Density Low on Resistance Trench Lateral Power MOSFET with a Trench Bottom Source Contact", IEEE Trans. on Electron Devices, vol. 49, pp. 1462-1468, 2002.
- H. Djahanshahi, N. Saniei, S.P. Voinigescu, M.C. Maliepaard and C.A.T. Salama, "A 20GHz InP-HBT Voltage-Controlled Oscillator with Wide Frequency Tuning Range", IEEE Trans. On Microwave Theory and Techniques, vol. 49, pp. 1566-1572, 2001.
- W. Yang and C.A.T. Salama, “A 1.8V 15-bit 1mW 2nd-Order Sigma-Delta Modulator”, J. on Analog IC and Signal Processing, vol. 26, pp. 191-204, 2000.
- J.Z. Ren and C.A.T. Salama, "1V SOI NMOSFET with Suppressed Floating Body Effects", Solid State Electronics, vol. 44, pp. 1931-1937, 2000.
- M. Ramezani and C.A.T. Salama, “A 0.8um BiCMOS Gate Driver for IGBT Power Switch”, J. on Analog Integrated Circuits and Signal Processing, vol. 24, pp. 175-185, 2000.

* Most significant papers.

- *H. Djahanshahi and C.A.T. Salama, “Differential CMOS Circuits for 622MHz/933MHz Clock and Data Recovery Applications”, IEEE J. Solid State Circuits, vol. 35, pp. 847-855, 2000.
- H. Djahanshahi, F. Hansen and C.A.T. Salama, “Gigabit-per-Second, ECL-Compatible I/O Interface in 0.35um CMOS”, IEEE J. Solid State Circuits, vol. 34, pp.1074-1083, 1999.
- *J. Ranaweera, W.T. Ng and C.A.T. Salama, “Simulation Fabrication and Characterization of a 3.3V Flash ZE^{2}PROM Array Implemented in a 0.8um CMOS Process”, Solid State Electronics, vol. 43, pp. 263-273, 1999.
- D. Hiemstra, A. Kizeev, L. Hou and C.A.T. Salama, “Dose Rate and Total Dose Dependence of Low Frequency Noise Performance, I-V Curves and Sidegating for GaAs MESFETs”, IEEE Trans. on Nuclear Science, vol. 45, pp. 2616-2623, 1998.
- *X.B. Chen, P.A. Mawby, K. Board, and C.A.T. Salama, “Theory of a Novel Voltage-Sustaining Layer for Power Devices”, Microelectronics Journal, vol. 29, pp. 1005-1011, 1998.
- *M. Aliahmad and C.A.T. Salama, “Integration of a Short-Loop SLIC in a Low-Voltage Submicron BiCMOS Technology”, IEEE J. of Solid State Circuits, vol. 33, pp. 850-858, 1998.
- M. Aliahmad and C.A.T. Salama, “A High Voltage Line Driver for Subscriber Loop Interfaces in a Low Voltage Submicron BiCMOS Technology”, J. on Analog Integrated Circuits and Signal Processing, vol. 17, pp. 261-274, 1998.
- T. Sowlati, Y. Greshishchev and C.A.T. Salama, “Phase-Correcting Feedback System for Class E Power Amplifier” IEEE J. Solid State Circuits, vol. 32, pp. 544-550, 1997.
- *Y. Li, C.A.T. Salama, M. Seufert, P. Schvan and M. King, “Design and Characterization of Submicron BiCMOS Compatible HV NMOS and PMOS Devices, IEEE Trans. on Electron Devices, vol. 44, pp. 331-338, 1997.
- J. Ranaweera, I. Kalastirsky, E. Gulersen, W.T. Ng and C.A.T. Salama, “A Novel Programming Method for High Speed, Low Voltage Flash E^{2}PROM Cells”, Solid State Electronics, vol. 39, pp. 981-989, 1996.
- *Y.Q. Li, C.A.T. Salama, M. Seufert, P. Schvan and M. King, “A Resurfed High-Voltage NMOS Device Fully Compatible with a Low-Voltage 0.8μm BiCMOS Technology”, Solid State Electronics, vol. 39, pp. 571-576, 1996.
- *R.Y.V. Chik and C.A.T. Salama, “Design of a 1.5V Full-Swing Bootstrapped BiCMOS Logic Circuit”, IEEE J. Solid State Circuits, vol. 30, pp. 972-978, 1995.
- *T. Sowlati, C.A.T. Salama, J. Sitch, G. Rabjohn and D. Smith, “Low Voltage, High Efficiency GaAs Class E Power Amplifiers for Wireless Transmitters”, IEEE J. Solid State Circuits, vol. 30, pp.1074-1080, 1995.
- Z.R. Tang, T. Kamins and C.A.T. Salama, “Analytical and Experimental Characteristics of SiGe Heterojunction Bipolar Transistors with Thin α-Si:H Emitters”, Solid State Electronics, vol. 38, pp. 1829-1834, 1995.
- *S.P. Voinigescu, P.B. Rabkin, C.A.T. Salama and P.A. Blakey, “2D Numerical Investigation of the Impact of Compositional Grading on the Performance of Submicrometer Si-SiGe MOSFETs”, IEEE Trans. on Electron Devices, vol. 42, pp. 1039-1046, 1995.
- *P. Li, Y. Li and C.A.T. Salama, "A Heterojunction Bipolar Transistor with a Thin α–Si Emitter", IEEE Trans. on Electron Devices, vol. 41, pp. 932-935, 1994.

- S. Voinigescu, K. Iniewski, R. Lisak, C.A.T. Salama, J.P. Noel and D.C. Houghton, "New Technique for the Characterization of Si/SiGe Layers using Heterostructure MOS Capacitors", Solid State Electronics, vol. 37, pp.1491-1501, 1994.
- K. Iniewski, M. Liu and C.A.T. Salama, "Doping Profiles Characterization in GaAs Semi-Insulating Substrates using Capacitance-Voltage, Conductance-Voltage and Current-Voltage Measurements", J. Vac. Science and Technology B, vol. 12, pp. 327-331, 1994.
- P.K.T. Mok and C.A.T. Salama, "A Novel High-Voltage High-Speed MESFET Using a Standard GaAs Digital IC Process", IEEE Trans. on Electron Devices, vol. 41, pp. 246-250, 1994.
- S. Liang, C.A.T. Salama and M. Maliepaard, "Modeling of the DC Characteristics of Merged Bipolar-MOS Structures", Solid State Electronics, vol. 37, pp. 387-392, 1994.
- *O.M.K. Law and C.A.T. Salama, "GaAs Split Phase Dynamic Logic", IEEE J. of Solid State-Circuits, vol. 29, pp. 617-622, 1994.
- S. Xiao and C.A.T. Salama, "High-Gain GaAs MESFET Op Amp", J. on Analog Integrated Circuits and Signal Processing, vol. 5, pp. 169-173, 1994.
- J.H. Pasternak and C.A.T. Salama, "Differential Pass-Transistor Logic", Circuits and Devices, vol. 9, #4, pp. 23-28, 1993.
- K. Iniewski, S. Voinigescu, J. Atcha and C.A.T. Salama, "Analytical Modeling of Threshold Voltages in p-Channel Si-SiGe-Si MOS Structures", Solid State Electronics, vol. 36, pp. 775-783, 1993.
- Z.R. Tang, C.A.T. Salama, J.P. Noel, D. Houghton and M. Buchanan, "Characteristics of Mesa and LOCOS-Isolated Molecular Beam Epitaxy SiGe Diodes", Canadian J. Physics, vol. 70, pp. 969-974, 1993.
- S. Voinigescu and C.A.T. Salama, "Optimal Channel Grading in p-type Si-SiGe MOSFETs", Can. J. Physics, vol. 70, pp. 975-978, 1993.
- A.M. Cujec, D. Nairn and C.A.T. Salama, "An Optimized Bit Cell Design for a Pipelined Current-Mode Algorithmic A/D Converter", J. on Analog Integrated Circuits and Signal Processing, vol. 3, pp. 137-141, 1993.
- *Q. Lu, P. Ratnam and C.A.T. Salama, "Novel High-Voltage Silicon-on-Insulator MOSFETs", Solid State Electronics, vol. 35, pp. 1745-1750, 1992.
- *C.P. Chong, C.A.T. Salama and K.C. Smith, "An Imager with Built-in Image-Velocity Computation Capability", IEEE Trans. on Circuits and Systems for Video Technology, vol. 2, pp. 306-312, 1992.
- *C.P. Chong, C.A.T. Salama and K.C. Smith, "A Novel Technique for Image-Velocity Computation", IEEE Trans. on Circuits and Systems for Video Technology, vol. 2, pp. 313-318, 1992.
- *S. Liang, L.Z. Hou, T. Gu and C.A.T. Salama, "Latch-up Modeling of BiCMOS Merged Bipolar-MOS Structures", Solid State Electronics, vol. 35, pp. 1461-1469, 1992.
- M. Mittal and C.A.T. Salama, "A GaAs 8x8 Cross-Point Switch for High Speed Digital Communications," J. High Speed Electronics, vol. 3, pp. 1-12, 1992.
- C.P. Chong, C.A.T. Salama and K.C. Smith, "Real-Time Edge Detection and Image Segmentation", Journal on Analog Integrated Circuits and Signal Processing, vol. 2, pp. 117-130, 1992.
- K. Iniewski and C.A.T. Salama, "Optimization of the CV Profiling Method Based on Inverse Modeling", J. Vac. Science and Technology, vol. 10, pp. 480-484, 1992.
- D.H.K. Hoe and C.A.T. Salama, "GaAs Pipelined Dynamic Logic", Integration, vol. 12, pp. 93-105, 1991.
- D.H.K. Hoe and C.A.T. Salama, "Dynamic GaAs Logic Circuits", J. High Speed Electronics, vol. 2, pp. 163-183, 1991.

- *J.H. Pasternak and C.A.T. Salama, "GaAs MESFET Differential Pass-Transistor Logic", IEEE J. Solid State Circuits, vol. 26, pp. 1309-1316, 1991.

- *J.H. Pasternak and C.A.T. Salama, "Design of Submicrometer CMOS Differential Pass-Transistor Logic Circuits", IEEE J. Solid State Circuits, vol. 26, pp. 1249-1258, 1991.
- *D.H.K. Hoe and C.A.T. Salama, "GaAs Trickle Transistor Domino Logic (TTDL)", IEEE J. Solid State Circuits, vol. 26, pp. 1441-1448, 1991.
- W.T. Ng and C.A.T. Salama, "A CMOS-Compatible Complementary SINFET HVIC Process", IEEE Trans. on Electron Devices, vol. 38, pp. 1935-1942, 1991.
- M. Patel, P. Ratnam and C.A.T. Salama, "A Novel Body Contact for SIMOX Based SOI MOSFETs", Solid State Electronics, vol. 34, pp. 1071-1075, 1991.
- D. Hoe and C.A.T. Salama, "Dynamic GaAs Capacitively Coupled Domino Logic (CCDL)", IEEE J. of Solid State Circuits, vol. 26, pp. 844-849, 1991.
- A. Nezar and C.A.T. Salama, "Breakdown Voltage in LDMOS Transistors Using Internal Field Rings", IEEE Trans. on Electron Devices, vol. 38, pp. 1676-1680, 1991.
- *K. Iniewski and C.A.T. Salama, "A New Approach to CV Profiling with Sub-Debye-Length Resolution", Solid State Electronics, vol. 34, pp. 309-314, 1991.
- W.T. Ng, S. Liang and C.A.T. Salama, "SINFET Device Modeling", Solid State Electronics, vol. 33, pp. 1569-1580, 1990.
- *D.G. Nairn and C.A.T. Salama, "Current Mode Algorithmic A/D Converters", IEEE J. Solid State Circuits, vol. 25, pp. 997-1004, 1990.
- H.W. Singor and C.A.T. Salama, "A High Performance CMOS Compatible 8-bit Current Scaling D/A Converter, IEE Proceedings, vol. 137, Part G, pp. 169-174, 1990.
- D. Nairn and C.A.T. Salama, "Algorithmic A/D Converters Using Current Mode Techniques", IEE Proceedings, vol. 137, Part G, pp. 163-168, 1990.
- *D. Nairn and C.A.T. Salama, "A Ratio Independent Algorithmic Analog to Digital Converter Combining Current Mode and Dynamic Techniques", IEEE Trans. on Circuits and Systems, vol. 37, pp. 319-325, 1990.
- A. Kassam, C. Meadowcroft, C.A.T. Salama, and P. Ratnam, "Characterization of $BCl_3 - Cl_2$ Silicon Trench Etching", J. Electrochemical Soc., vol. 137, pp. 1613-1617, 1990.
- *Z. Parpia and C.A.T. Salama, "Optimization of RESURF LDMOS Transistors: An Analytical Approach", IEEE Trans. on Electron Devices, vol. 37, pp. 789-796, 1990.
- W. Ng, S. Liang and C.A.T. Salama, "Schottky Barrier Diode Characteristics Under High Level Injection", Solid State Electronics, vol. 33, pp. 39-46, 1990.
- K.J. Schultz, D.H.K. Hoe and C.A.T. Salama, "A Microprogrammable Processor Using Single Poly EPROM", Integration, vol. 8, pp. 189-199, 1989.
- J.K.O. Sin, C.A.T. Salama, and L.Z. Hou, "Transient Characteristics of N-Channel Hybrid Schottky Injection FET's, "IEEE Trans. on Electron Devices, vol. 36, pp. 993-1000, 1989.
- J.K.O. Sin, C.A.T. Salama, V. Rumennik and S. Mukherjee, "High Voltage Characteristics of Resurfed Schottky Injection FET's", Solid State Electronics, vol. 34, pp. 317-326, 1989.

- S. Tarasewicz and C.A.T. Salama, "Threshold Voltage Characteristics of Ion Implanted Depletion MOSFETs", Solid State Electronics, vol. 33, pp. 1441-1446, 1988.
- *Z. Parpia, C.A.T. Salama and R. Hadaway, "A CMOS-Compatible High-Voltage IC Process", IEEE Trans. on Electron Devices, vol. 35, pp. 1687-1694, 1988.

- Z. Parpia, C.A.T. Salama and R. Hadaway, "Modelling and Characterization CMOS Compatible High Voltage Device Structures", IEEE Trans. on Electron Devices, vol. ED-34, pp. 2335-2343, 1987.
- S. Wong and C.A.T. Salama, "Improved Simulation of p and n channel MOSFETs Using an Enhanced SPICE MOS3 Model", IEEE Trans. on CAD, vol. CAD-6, pp. 586-590, 1987.
- *J.H. Pasternak, A.S. Shubat and C.A.T. Salama, "CMOS Differential Pass-Transistor Logic Design", IEEE J. Solid State Circuits, vol. SC-22, pp. 216-222, 1987.
- A.S. Shubat, J.A. Pretorius and C.A.T. Salama, "Expandable Arithmetic Block Macrocell", Integration, vol. 5, pp. 47-71, 1987.
- *J. Sin, C.A.T. Salama and L. Hou, "The SINFET - A Schottky Injection MOS-Gated Power Transistor", IEEE Trans. on Electron Devices, vol. 33, pp. 1940-1947, 1986.
- *Z. Parpia, J.G. Mena and C.A.T. Salama, "A Novel CMOS Compatible High-Voltage Transistor Structure", IEEE Trans. on Electron Devices, vol. 33, pp. 1948-1952, 1986.
- *S.L. Wong and C.A.T. Salama, "A Switched Differential Op Amp with Low Offset and Reduced 1/f Noise", IEEE Trans. on Circuits and Systems, vol. CAS-33, pp. 1119-1127, 1986.
- S. Tarasewicz and C.A.T. Salama, "Simulation of the Accumulation-Punchthrough Mode in Depletion MOSFETs", Solid State Electronics, vol. 29, pp. 1025-1034, 1986.
- *J.G. Mena and C.A.T. Salama, "High Voltage Multiple Resistivity Drift Region LDMOS Transistors", Solid State Electronics, vol. 29, pp. 647-656, 1986.
- *J.A. Pretorius, A.S. Shubat and C.A.T. Salama, "Charge Redistribution and Noise Margins in Domino CMOS Logic", IEEE Trans. on Circuits and Systems, vol. CAS-33, pp. 786-793, 1986.
- *J.A. Pretorius, A.S. Shubat and C.A.T. Salama, "Latched Domino CMOS Logic", IEEE J. of Solid State Circuits, vol. SC-21, pp. 514-522, 1986.
- S.L. Wong and C.A.T. Salama, "An Efficient CMOS Buffer for Driving Large Capacitive Loads", IEEE J. of Solid State Circuits, vol. SC-21, pp. 464-469, 1986.
- J. Sin and C.A.T. Salama, "Wideband DMOS Amplifier Competes with Bipolar", Microwaves and RF, vol. 25, pp. 113-120, June 1986.
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- P. Ratnam and C.A.T. Salama, "A New Approach to the Modeling of Nonuniformly Doped Short-Channel MOSFET's", IEEE Trans. on Electron Devices, vol. ED-31, pp. 1289-1298, 1984.
- P. McGregor, J. Mena and C.A.T. Salama, "Small-Signal High-Frequency Performance of Power MOS Transistors", Solid State Electronics, vol. 27, pp. 419-432, 1984.

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• PERSONNEL TRAINING

I. GRADUATE STUDENT THESES SUPERVISED:

CAREER TOTALS:

- Ph.D. 33
- M.A.Sc.* 86
- M.Eng. 1

II. POST DOCTORAL FELLOWS/RESEARCH ASSOCIATES

CAREER TOTALS: 34

- Research oriented Thesis

• MAJOR CONTRIBUTIONS TO ENGINEERING

TECHNOLOGY AND PRACTICE

- **Research**
  - Made fundamental and internationally recognized contributions in the area of semiconductor device research as well as in analog and digital microchip design for applications in telecommunications and computer systems. These contributions are documented in over 340 refereed publications and 16 patents.
  - By recognizing the fundamental importance of interaction with industry, and in conjunction with his graduate students, ensured that his contributions to the design, development and implementation of novel microelectronic devices and integrated circuits were transferred to industry. These contributions have been and are presently in use in the microelectronic industry worldwide and have had a significant impact on:
    - Micropower device and circuit design
    - Power semiconductor device and high voltage integrated circuit design
    - Heterojunction bipolar and MOS transistors (SiGe) design, modeling, fabrication
    - CMOS current mode analog IC design
    - CMOS/BiCMOS high speed logic design
    - GaAs Dynamic logic design
  - Presently involved in industrial cooperation in the area of microelectronics and information technology with several Canadian, US and Japanese corporations.

- **Promotion and Management of Research Activity**
  - Scientific Director of, and a Principal Investigator in, Micronet: a Federal Network of Centres of Excellence focussing on research in microelectronic devices, circuits and systems. Micronet's budget is $4.3M/year from federal government and industry sources. Micronet involves 20 universities working in close cooperation with 49 Canadian industrial corporations and has been in operation since 1990. Micronet received its third funding mandate for the period 1998-2005. The University of Toronto is the host of the Administrative Centre for the Network. Over the last 15 years, Micronet has contributed over $50M to microelectronics research in Canada.
  - Founding Chairman of the Board of Directors and a member of the Board of Directors of the Canadian Microelectronics Corporation (CMC). CMC was set up by NSERC in 1984 as a result of a proposal made by a university-industry committee chaired by A. Salama. CMC, during its first five years (1984-89) of operation was funded by a $19.8M grant from NSERC. Funding for CMC was renewed for a further five years in 1989 ($23.6M), in 1994 ($22M over five years), and again in 2000 ($30M over five years). CMC has had a significant impact on the development of a strong Canadian presence in the field of microchip design both at the university level and in industry. CMC at present involves 38 Canadian universities and 10 industrial corporations.
  - Principal Investigator (1987-1997) and Microelectronics Area Coordinator (1987-90) for the Information Technology Research Centre, a Centre of Excellence funded by the Province of Ontario.
  - Principal Investigator (1998-2001) for Communications and Information Technology Ontario (CITO), a centre of excellence funded by the Province of Ontario.
  - Set up what is considered to be one of the major university microelectronic design and fabrication facility in Canada.

- **Research Personnel Training**
  - Has trained 33 Ph.D's, 86 M.A.Sc's and 1 M.Eng. over the last thirty-seven years at the University of Toronto. Most of these researchers are now in senior managerial positions in industry or in professorial positions in Canada, the United States, Ireland, Japan, France, Hong Kong and China.